

# Students Writing For Students

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McDaniel's Mathematics major:

- Theoretical (or CS)
- Problems Solving
- Long-form Capstone presentation

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Can they write?

- Best students could write.
- No structured writing outside of problem sets
- No way to check whether graduates could write mathematics

# First Steps

- More *writing* assignments (projects, papers)
- Required paper for Capstone project
- Required drafts for Capstone, revisions in Problem Seminar

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- Not necessarily *thinking* about writing
- No exposure to other writing (good or bad).

# Current Efforts

- Number Theory
- Capstone
- Abstract Algebra

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- Abstract Algebra – Big Theorems

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- Version 3 – each student writes a day's worth of notes on Overleaf

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- Weekly review meetings, opportunities to fix issues
- Essential part of grade; students only worry about writing clearly
- Prize at end of semester!

# Senior Capstone

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## Initial issues:

- Had trouble finishing in one semester
- Students were unsure of scope, often taking easy routes
- Writing wasn't very good

- Version 1 – two drafts of paper

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Student work improves each time I increase the number of deadlines!

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- Version 2 – Big Theorems

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- Another student is responsible for proof-reading, editing, and comments
- 2 Theorems/Examples on each exam

# Future Projects

Where to improve, and where else can I apply this?

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- Streamline Abstract Algebra

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- TeX in Fundamentals of Mathematics (intro to proofs)

Where to improve, and where else can I apply this?

- Streamline Abstract Algebra
- TeX in Fundamentals of Mathematics (intro to proofs)
- Calculus?